Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A stirling cooler comprising:

a case provided with a cold tip at an end thereof;

a cylinder fixedly installed in the case and provided with a piston reciprocating therein;

a displacer installed in the piston such that the displacer can reciprocate;

a regenerator positioned between the displacer and the cold tip;

a heat exchanger connected to the regenerator and the cylinder; and

a packing positioned at an area, in which the cylinder contacts the case, in an axial direction of the cylinder.

2. (Original) The stirling cooler as set forth in claim 1, wherein:

the heat exchanger includes an inner heat exchanger installed in a heat exchange chamber positioned between the cylinder and the case, and an outer heat exchanger installed on an outer surface of the case opposite to the inner heat exchanger; and

the packing is positioned at the heat exchange chamber for maintaining the sealed state of the heat exchanger chamber.

3. (Original) The stirling cooler as set forth in claim 2,

wherein an O-ring is installed at an outer surface of the cylinder opposite to the inner heat exchanger.

4. (Original) The stirling cooler as set forth in claim 2,

wherein an O-ring is installed at a portion of the cylinder contacting the case in a radial direction of the cylinder for defining the heat exchange chamber.

5. (Original) The stirling cooler as set forth in claim 4,

wherein the O-ring and the packing are respectively positioned at opposite sides of the heat exchange chamber in the axial direction of the cylinder.

6. (Original) The stirling cooler as set forth in claim 1,

wherein the packing is interposed between a flange protruded perpendicularly from an outer surface of the cylinder and a stair of the case on which the flange is seated.

7. (Original) The stirling cooler as set forth in claim 6,

wherein the flange of the cylinder has a ring shape.

8. (Original) The stirling cooler as set forth in claim 6,

wherein through holes for connecting the flange of the cylinder and the stair of the case by screws are formed through the packing.

9. (Original) The stirling cooler as set forth in claim 6,

wherein the packing has a ring shape so that it is inserted into the outer surface of the cylinder.

10. (Currently Amended) The stirling cooler as set forth in claim 6 ~~10~~,

wherein the packing has a radius, defining a distance from the center thereof to the outer circumference thereof, being the same as a distance from the center of the cylinder to the flange of the cylinder in a radial direction of the cylinder.

11. (Original) A stirling cooler comprising:

a case provided with a cold tip at an end thereof;

a cylinder fixedly installed in the case and provided with a piston reciprocating therein;

a displacer installed in the piston such that the displacer can reciprocate;

a regenerator positioned between the displacer and the cold tip;

a heat exchanger including inner and outer units respectively installed at the inside and outside of a heat exchange chamber positioned between the cylinder and the case and connected to the regenerator and the cylinder; and

a packing interposed between a flange protruded perpendicularly from an outer surface of the cylinder and a stair of the case on which the flange is seated in an axial direction of the cylinder for maintaining the sealed state of the heat exchange chamber.

12. (Original) The stirling cooler as set forth in claim 11,

wherein through holes for connecting the flange of the cylinder and the stair of the case by screws are formed through the packing.

13. (Original) The stirling cooler as set forth in claim 11,

wherein the packing has a ring shape so that it is inserted into the outer surface of the cylinder.

14. (Original) The stirling cooler as set forth in claim 11,

wherein an O-ring is installed at an outer surface of the cylinder opposite to the inner heat exchanger.

15. (Original) The stirling cooler as set forth in claim 11,

wherein an O-ring is installed at a portion of the cylinder contacting the case in a radial direction of the cylinder for defining the heat exchange chamber.

16. (Original) The stirling cooler as set forth in claim 15,

wherein the O-ring and the packing are respectively positioned at opposite sides of the heat exchange chamber in the axial direction of the cylinder.

17. (Original) A stirling cooler comprising:

a case provided with a cold tip at an end thereof;

a cylinder fixedly installed in the case and provided with a piston reciprocating therein;

a displacer installed in the piston such that the displacer can reciprocate;

a regenerator positioned between the displacer and the cold tip;

a heat exchanger including inner and outer units respectively installed at the inside and outside of a heat exchange chamber positioned between the cylinder and the case and connected to the regenerator and the cylinder;

a packing interposed between a flange protruded perpendicularly from an outer surface of the cylinder and a stair of the case on which the flange is seated in an axial direction of the cylinder for maintaining the sealed state of the heat exchange chamber; and

an O-ring positioned at an outer circumference of a portion of the cylinder defining the heat exchange chamber such that the O-ring is separated from the packing in an axial direction of the cylinder and contacts the case in a radial direction of the cylinder.

18. (Original) The stirling cooler as set forth in claim 17,

wherein through holes for connecting the flange of the cylinder and the stair of the case by screws are formed through the packing.

19. (Original) The stirling cooler as set forth in claim 17,

wherein the packing has a ring shape so that it is inserted into the outer surface of the cylinder.

20. (Original) The stirling cooler as set forth in claim 17,

wherein an O-ring is installed at an outer surface of the cylinder opposite to the inner heat exchanger.